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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/518,663

12/17/2004

Hitoshi Asahi

52433/782

7855

26646

7590

12/20/2007

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EXAMINER

YEE, DEBORAH

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

12/20/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/518,663	<b>Applicant(s)</b> ASAHI ET AL.	
	<b>Examiner</b> Deborah Yee	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4,7 and 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,7 and 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1 to 4, 7 and 9 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 to 4, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4,772,771 (hereinafter US'771) in view of US Patent 6,245,290 (hereinafter US'290).
4. US'771 in table 1 of columns 3-4 disclose specific steel alloy examples for oil well pipe application having compositions that meet the recited claims. Even though 0.001 to 0.01% N as recited by the claims is not disclosed by prior art, such would not be a patentable difference since N would be an obvious additive in view of US'290. Note that US'290 on lines 21-30 in column 8 teaches that it is desirable to add 0.001 to 0.006% N with small amounts of Ti to form TiN for improving ductility and prevent coarsening of grains in an analogous oil well pipe steel. Since such properties would be sought by US'771, then it would be an obvious modification for one skilled in the art to incorporate

N together with Ti in steel to produce no more than the known and expected effects from such additions.

5. Even though US'771 does not teach the collapse strength ratios and a bainitic ferrite or bainite microstructure as recited by the claims, such properties would be expected since the composition and process of making are closely met, and in absence of proof to the contrary. Note claim 1 in columns 5-6 of US'771 teaches hot rolling, quenching, coiling at a temperature not exceeding 250C, forming steel into a tubular form followed by welding and then reheating the welded zone at a temperature above 900C, quenching and tempering, which are essentially the same steps as disclosed on page 16 of Applicant's specification.

6. Claims 1 to 4, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese patent 406184693 (hereinafter JP'693) or US Patent 6,245,290 (hereinafter US'290).

7. Each reference teaches a steel tube having a composition that meets the recited claims, see alloys 21 and 22 in table on page 4 of JP'693; and alloys 1 to 12 in tables 1 and 2 of columns 17-18 of US'290. Moreover, similar to present invention, prior art steels exhibit a martensitic-bainitic microstructure. Even though prior art teaches the additional phase martensite, such would not be excluded from "comprised" recited by the claims since "comprised" is inclusive of unrecited components, even in major amounts.

8. Even though the collapse strength ratios as recited by the claims are not taught by prior art, such property would be expected since composition is met and process of

making is closely met. Note prior art steel is subjected to hot rolling followed by cooling and coiling at a temperature of not more than 300C to form steel plate, then steel plate is subjected to shaping into a tube and welding a seam which are essentially the same steps as disclosed in item (12) on page 7 of Applicant's specification.

9. In addition, US'290 on lines 5 to 13 in column 1 teaches using pipe for transport of crude oil, and would be expected to be used in expanded oil well drilling application as recited by claims 7 and 9. Although JP'693 does not teach using pipe for expanded oil well drilling, such would not be a patentable difference since it is merely Applicant's future and intended use.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on monday-friday 6:00 am-2:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:  
10/518,663  
Art Unit: 1793

Page 5

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/Deborah Yee/  
Primary Examiner  
Art Unit 1793

/DY/